

## **REMARKS**

### **The Invention.**

The present invention provides a novel cellulase referred to as 029cel, an isolated polynucleotide encoding a polypeptide cellulase, an expression construct, a vector, a host cell and a process for producing a cellulase polypeptide, the cellulase polypeptide and a method of treating wood pulp by using said cellulase.

### **Status of the Application.**

Claims 1-33 are pending in the application. Claims 6, 22-24, 29 and 31-33 have been cancelled have been cancelled without prejudice. Applicants reserved the right to file further continuation applications on any subject matter disclosed in the instant application or on the subject matter of any previously or presently cancelled claim. Claims 1-3, 5, 7-10 and 15-16 have been amended to correct typographical errors and to more clearly and concisely claim the invention. Applicants assert new matter has not been introduced by the amendment.

### **Election/Restriction.**

Claims 22-24, 29 and 31-33 have been withdrawn by the Examiner as being drawn to a non-elected invention. Applicants hereby cancel Claims 22-24, 29 and 31-33 without prejudice. Applicants reserve the right to pursue the originally filed, similar and/or broader Claims in the future.

### **Claim Objections.**

Claims 1-3, 7-10 and 15-16 have been objected to for various reasons. See pages 4-5 of the Office Action. Applications have provided appropriate correction. Withdrawal of the objections is respectfully requested.

### **35 U.S.C. §112, second paragraph.**

Claims 1-14 are rejected under 35 USC §112, second paragraph as failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants respectfully traverse.

Applicants have amended claims 1 and 7 rendering this objection moot. Withdrawal of the objection is respectfully requested.

Claims 9 and 10 are rejected under 35 USC §112, second paragraph as failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner asserts that the recitation of the phrase "control sequences" renders the claims vague and indefinite. Applicants respectfully traverse.

The phrase "control sequences" is defined in paragraph [0046] on page 7 of the application as filed. Specifically, the sentence reads: "The promoter together with other transcriptional and translational regulatory nucleic acid sequences (also termed "control sequences") are necessary to express a given gene." One skilled in the art would understand the meaning of "control sequences". Thus, Claim 9 and dependent Claim 10 are not vague and indefinite. Withdrawal of the objection is respectfully requested.

Claim 7 is rejected under 35 USC §112, second paragraph as failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants respectfully traverse.

Applicants have amended claim 7 rendering this objection moot. Withdrawal of the objection is respectfully requested.

Claim 16 is rejected under 35 USC §112, second paragraph as failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants respectfully traverse.

Applicants have amended claim 16 rendering this objection moot. Withdrawal of the objection is respectfully requested.

Claims 15-16 and 30 are rejected under 35 USC §112, second paragraph as failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner asserts that the recitation of the

phrase "substantially purified" renders the claims vague and indefinite. Applicants respectfully traverse.

The phrase "substantially pure" is defined in paragraph [0057] on page 10 of the application as filed. One skilled in the art would understand the meaning of "substantially purified". Thus, Claim 15 (and dependent Claims 16 and 30) are not vague and indefinite. Withdrawal of the objection is respectfully requested.

**35 U.S.C. §112, first paragraph.**

Claims 1-14 and 16-21 stand rejected under 35 USC §112, first paragraph as allegedly containing subject which was not described in the specification in such a way as to convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant respectfully traverses.

Applicants have amended claims 1-3, 7-10 and 16 rendering this objection moot. Withdrawal of the objection is respectfully requested.

Claims 1-21, 25-28 and 30 stand rejected under 35 USC §112, first paragraph as failing enable "the extremely large number of cellulase gene encoding cellulase protein including many mutants and fragments and variants broadly encompassed by the claims." See page 12 of the Office Action. Applicant respectfully traverses.

Applicants have amended claims 1-3, 7-10 and 16 rendering this objection moot. For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 USC §112. Applicants respectfully request reconsideration and withdrawal of the rejection.

**35 U.S.C. §102(b).**

Claim 16 stands rejected under 35 USC §102(b) as being anticipated by Shirai *et al.* (J Mol. Biol. 2001; 310(5):1079-87). Applicants respectfully traverse.

Applicants have amended claim 16 rendering this objection moot. Withdrawal of the objection is respectfully requested.

Claim 15 stands rejected under 35 USC §102(b) as being anticipated by Ahsan *et al.* (J Bacteriol. 1996; 178(19):5732-40). Applicants respectfully traverse.

As the Examiner notes on page 17 of the Office Action, the cellulase disclosed by Ahsan is only 26.2% identical to SEQ ID NO:3. This identity fails to meet the lowest identity (i.e., 85% identity) required by the claim (subsections a- d). Subsection e requires that the fragment retain cellulose activity. Although there is no identity requirement provided, Applicants submit that the biologically active fragment of SEQ ID NO:3 would not have the sequence found in Ahsan. Conversely, the cellulase disclosed by Ahsan would not have the sequence of a biologically active fragment of SEQ ID NO:3. Withdrawal of the objection is respectfully requested.

Claims 1, 2 and 7 stand rejected under 35 USC §102(b) as being anticipated by GenBank Accession No. L20094. Applicants respectfully traverse.

As the Examiner notes on page 17 of the Office Action, the cellulase disclosed by GenBank Accession No. L20094 is only 48.4% identical to SEQ ID NO:2. This identity fails to meet the lowest identity (i.e., 85% identity) required by the currently amended claims. Withdrawal of the objection is respectfully requested.

Claims 1-4, 7-9, 11-13, 17 and 19-21 stand rejected under 35 USC §102(b) as being anticipated by Jung *et al.* (Appl Environ Microbiol. 1993 Sep; 59(9):3032-43). Applicants respectfully traverse.

As the Examiner notes on page 18 of the Office Action, the cellulase disclosed by Jung *et al.* is only 48.4% identical to SEQ ID NO:2. This identity fails to meet the lowest identity (i.e., 85% identity) required by the currently amended claims. Withdrawal of the objection is respectfully requested.

**35 U.S.C. §103.**

The Examiner has rejected claims 5-6, 14 and 18 as allegedly obvious over the combination of Jung, *et al.* in view of Godbole, *et al.* Applicant respectfully traverses the rejection.

To establish a *prima facie* case of obviousness the examiner must show that all the elements of the claim are taught or suggested in the prior art (MPEP 2143.03 and Federal Register Examination Guidelines for Determining Obviousness, Section III.A.1, Fed. Reg., Vol. 72, No. 195, 2007), and if prior art elements are described in the art, the combination of elements must yield predictable results to render a claimed invention obvious. Further, it should be demonstrated that the prior art reference(s) provide a teaching, suggestion or motivation to combine the references, and/or there is reasonable expectation of success (MPEP 2142 and Federal Register Examination Guidelines for Determining Obviousness, Section III.G, Fed. Reg., Vol. 72, No. 195, 2007).

Applicants have amended Claim 5 rendering this objection moot as applied to Claim 5 and dependent Claim 6.

With respect to Claims 14 and 18, Applicants note that the Examiner has not demonstrated a *prima facie* case of obviousness because *at least* one of the basic factors of obviousness is missing. Jung *et al.* is directed to the expression of a bacterial cellulase (i.e., *T. fusca*) in a bacterial host cell. Godbole *et al.* is directed to the expression of a fungal cellulase (i.e., *Trichoderma reesei* cellobiohydrolase) in a yeast cell. The Examiner has not shown that one of ordinary skill in the art reading Jung *et al.*, in view of Godbole, *et al.* would have reasonably predicted that a bacterial cellulase would be expressed in a yeast host cell. Furthermore, there is no teaching, suggestion or motivation to combine the two references.

Withdrawal of the objection is respectfully requested.

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Amdt. dated May 14, 2008  
Reply to Office action of November 16, 2007

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**CONCLUSION**

In light of the above amendments, as well as the remarks, the Applicants believe the pending claims are in condition for allowance and issuance of a formal Notice of Allowance at an early date is respectfully requested. If a telephone conference would expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (650) 846-7615.

Respectfully submitted,

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